Edexcel International GCSE Physics 4PH1 Learning Plan

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| **Unit: 8 Astrophysics** | **Chapter: 28. Cosmology** | **Hours: 3** |
| Content coverage | Learning outcomes | Resources | Assessment |
| Section 8: Astrophysicsa) Unitsd) Cosmology | **8.13P describe the past evolution of the universe and the main arguments in favour of the Big Bang** **8.14P describe evidence that supports the Big Bang theory(red-shift and cosmic microwave background (CMB) radiation)** **8.15P describe that if a wave source is moving relative to an observer there will be a change in the observed frequency and wavelength** **8.16P use the equation relating change in wavelength, wavelength, velocity of a galaxy and the speed of light****8.17P describe the red-shift in light received from galaxies at different distances away from the Earth** **8.18P explain why the red-shift of galaxies provides evidence for the expansion of the universe**  | Video and Powerpoint: Sectio 6 Lesson 3 - CosmologyTextbook pages:Page 271 – The Doppler EffectPage 273 – The Doppler EquationPage 273 – Cosmic microwave background (CMB) radiation | Page 274Questions (1) to (5)Pages 275 – 276End of Unit Questions (1) to (9)Chapter 28 Textbook Answers (PDF)Chapter 28 Answers to End of Unit Questions (PDF)Chapter 28 - exam question - pdfChapter 28 - exam question mark scheme – pdfChapter 28 - Talking paper video  |

Videos – [www.igcsesciencecourses.com](http://www.igcsesciencecourses.com)

Textbook Ref: Edexcel International GCSE (9-1) Physics Student Book - Pearson (Arnold, Johnson, Woolley))